

CLAIMS

The invention claimed is:

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1. A server for transmitting data over a network to a client having a de-jitter buffer, the server comprising:
- a regular path for transmitting data received from a source at a regular rate;
 - a burst path for transmitting data received from the source at a burst rate higher than the regular rate;
 - an initial burst transmit buffer in the burst path for buffering data from the source, and for transmitting the buffered data to the client at the burst rate; and
 - 15 a switch for selecting to transmit data from one of the regular path and the initial burst path.
2. The server of claim 1, further comprising:
- a control unit for switching the switch.
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3. The server of claim 2, further comprising:
- a monitor that measures an amount of the data is output through the burst path, and wherein the control unit switches the switch when a preset measure of the data is output through the burst path.
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4. The server of claim 1, further comprising:
- a network bandwidth monitor; and
 - a controller that controls a fill level of the initial burst transmit buffer according to the monitored bandwidth.
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5. The server of claim 1, further comprising:
- a transcoder for transcoding the buffered streaming media output through the burst path.
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6. The server of claim 1, further comprising:
- a network bandwidth monitor; and
 - a transcoder for transcoding the buffered streaming media output through the burst path if the monitored bandwidth becomes less than a preset bandwidth.

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7. A client for receiving streaming media over a network, the client comprising:
a receiving de-jitter buffer for receiving and playing out the streaming media,
wherein the receiving de-jitter buffer has a changing fill level that changes while
playing out the streaming media.
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8. The client of claim 7, wherein
the fill level is increased gradually.
9. A server for retransmitting streaming media to a network comprising:
15 means for receiving a first portion of the streaming media along a first path;
means for outputting the first portion to the network through the first path at a first
rate;
means for receiving a second portion of the streaming media from the source along a
second path distinct from the first path at least in part; and
20 means for transmitting the second portion to the network through the second path at a
second rate lower than the first rate.
10. The server of claim 9, further comprising:
means for switching to outputting from the second path, from outputting from the first
25 path.
11. The server of claim 9, further comprising:
means for storing the first portion.
12. The server of claim 9, further comprising:
30 means for monitoring a bandwidth of the network; and
means for controlling a size of the first portion according to the monitored bandwidth.
13. The server of claim 9, further comprising:
35 means for transcoding the first portion.
14. The server of claim 9, further comprising:
means for monitoring a bandwidth of the network; and

5 means for transcoding the first portion if the monitored bandwidth becomes less than a preset bandwidth.

15. A method for a server to retransmit streaming media to a network comprising:
receiving a first portion of the streaming media along a first path of the server;
10 outputting the first portion to the network through the first path at a first rate;
receiving a second portion of the streaming media from the source along a second path of the server distinct from the first path at least in part; and
transmitting the second portion to the network through the second path at a second rate lower than the first rate.

15 16. The method of claim 15, further comprising:
switching the server to outputting from the second path, from outputting from the first path.

20 17. The method of claim 15, further comprising:
storing the first portion in an initial burst transmit buffer.

18. The method of claim 15, further comprising:
monitoring a bandwidth of the network; and
25 controlling a size of the first portion according to the monitored bandwidth.

19. The method of claim 15, further comprising:
transcoding the first portion.

30 20. The method of claim 15, further comprising:
monitoring a bandwidth of the network; and
transcoding the first portion if the monitored bandwidth becomes less than a preset bandwidth.

35 21. A client for receiving streaming media over a network, the client comprising:
means for receiving data having the streaming media encoded therein;
means for storing the received data in a de-jitter buffer thereby increasing a fullness of the buffer;

5 means for initiating play out of the stored data from the de-jitter buffer when the fullness reaches a fill level; and
means for changing the fill level while playing out the stored data.

22. A method for a client to receive streaming media over a network, comprising:
10 receiving data having the streaming media encoded therein;
storing the received data in a de-jitter buffer thereby increasing a fullness of the buffer;
when the fullness reaches a fill level, initiating play out of the stored data from the de-jitter buffer; and
15 changing the fill level while playing out the stored data.

23. The method of claim 22, wherein
the fill level is increased gradually.

20 24. The method of claim 22, wherein
play out is initiated before the fullness has reached a final level.